Bridget A. Walsh, Tricia A. Woodliff, Julie Lucero, Sheena Harvey, Melissa M. Burnham, Teysha L. Bowser, Matthew Aguirre and David W. Zeh   *University of Nevada, Reno*

Historically Underrepresented Graduate Students' Experiences During the COVID-19 Pandemic

Objective: The purpose of this study was to understand the experiences of historically underrepresented graduate students, more than half of whom were enrolled in science, technology, engineering, and mathematics (STEM) disciplines, during the COVID-19 pandemic. This focus group study represents an initial stage in developing an intervention for historically underrepresented graduate students and their families.

Background: Underrepresentation of graduate students of color in STEM has been attributed to a myriad of factors, including a lack of support systems. Familial support is an endorsed reason for persisting in graduate school. It is unclear what historically underrepresented graduate students' experiences are during uncertain times, such as a pandemic.

Method: Focus groups were conducted online using a videoconferencing platform during the COVID-19 pandemic. Five focus groups included: historically underrepresented doctoral students (n = 5), historically underrepresented master's students (n = 6), academic faculty (n = 7), administrator, administrative faculty, and academic faculty (n = 6), and families of historically underrepresented doctoral students (n = 6). Data were analyzed using thematic analysis.

Results: Historically underrepresented graduate students experienced difficulties in accessing resources, adjustments to home and family life, amplification of existing nonfinancial issues, and expressed both fears of and hopes for the future.

Conclusion: The COVID-19 pandemic exacerbated existing inequalities in access to resources as well as nonfinancial family support.

Implications: This study may help normalize historically underrepresented graduate students' experiences during the COVID-19 pandemic. The findings include ideas for informing families about graduate school that can enlighten family support efforts for historically underrepresented graduate students and their families.

Students from historically underrepresented and minoritized ethnic and racial groups in the United States are pursuing graduate education in greater numbers and face specific challenges at postsecondary institutions. According to a report by the Council of Graduate Schools, racially minoritized students comprised 24.1% of the noninternational graduate student population in the United States in fall of 2018.[1]

Department of Human Development, Family Science, and Counseling, MS 0140, University of Nevada, Reno, NV 89557 (bridgetw@unr.edu).

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[1]Historically underrepresented and minoritized both refer to racial and ethnic groups. Historically underrepresented refers most often to racialized groups who have historically been minoritized and discriminated against in

This was an increase of 1.3% from the previous year but still not representative of the U.S. population (Okahana & Zhou, 2019). Despite the increasing number of these graduate students overall, they continue to be markedly underrepresented in science, technology, engineering, and mathematics (STEM) programs (e.g., Burt et al., 2019). Given that most institutions of higher education have historically not served students of color, we sought to examine the lived experiences of racially minoritized, as well as first-generation and otherwise underrepresented graduate students at a large university in the western United States. While preparing an intervention for a large study of historically underrepresented graduate students, the COVID-19 pandemic commenced, providing an opportunity to understand the particular challenges this crisis wrought on our priority study population.

The challenges faced by graduate students of color during nonpandemic times—and, conversely, the support structures that promote their success—have been documented in previous research. Support structures fall into two broad categories: nonacademic and academic.

Nonacademic supports include family and peer support systems (Bancroft, 2013; Burt et al., 2019; Martinez, 2018), while academic supports include opportunities for mentorship, assistance from undergraduate mentors with the graduate school application process, and opportunities for participation in research projects (Chang et al., 2014; Estrada et al., 2018; Howard, 2017; Lane, 2016). Working together, these supports help students persist through graduate school stressors.

Graduate students of color must overcome the structural racism in graduate programs that keeps students of color feeling like foreigners at predominantly White institutions (Burt et al., 2018, 2019). Persistence, then, requires a series of support systems that actively work to combat this marginalization. Mere recruitment

of graduate students of color is not sufficient, as programs and universities must understand how overt and covert aspects of policy and culture have an impact on the students' ability to thrive.

For example, some STEM programs may reinforce the "ideal worker norm," which insists on "commitment to the job through long hours, unbroken career trajectories, and constant availability and visibility," in addition to highlighting the separation of career and work from family life or caregiving, thereby endorsing gender expectations of males as the breadwinners and women as the caregivers (Kachchaf et al., 2015, p. 176). This affects graduate students of color, particularly the career–life balance of women of color, as they have to navigate family responsibilities or decisions about having a family with the expectations of uninterrupted long hours and social expectations of their program, which compounds the social exclusion they may experience (Kachchaf et al., 2015).

In their study of Black men enrolled in three engineering graduate programs, Burt et al. (2019) found that familial support was among the most endorsed reasons for persisting in graduate school. Specifically, parental encouragement, advice, and belief in their student's ability and success were noted as particularly salient. Martinez (2018) similarly concluded that family support was important to Latino students' decisions to apply to doctoral programs. Although overall support from family is impactful for graduate students from underrepresented backgrounds, the connection of family and community to the student's identity is an important factor as well, as it greatly influences students' social capital in the academic setting (Holley & Gardner, 2012). First-generation graduate students often describe having family members who are confused by their pursuit of a higher degree in a certain field and an overall concern for them to acquire employment (Holley & Gardner, 2012). In addition, some first-generation students from racial/ethnic backgrounds describe experiencing a disconnect or gap between their community or where they grew up and their academic environment, which also can be felt by their family members (Holley & Gardner, 2012). These gaps or disconnects can be related to differences between the two environments or lack of representation and knowledge regarding the field, responsibilities and expectations, and progression of graduate school, and they are often exacerbated as the

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the United States (e.g., Black/African American people, Native/Indigenous people, Latinx/Chicanx/Hispanic people). In the present study, we focused on graduates' students of color, first-generation graduate students, and populations that are underrepresented in certain disciplines (i.e., women in STEM). First-generation students are not automatically historically underrepresented. American Indian/Alaska Native (0.5%), Black/African American (11.8%), Native Hawaiian/Other Pacific Islander (0.2%), Latinx (11.6%).

student progresses in their program. Further, they can also create unrealistic expectations for family members about the student, creating additional stress or burden for the student (Holley & Gardner, 2012).

In addition to family, in an analysis of a postbaccalaureate achievement program, Bancroft (2013) identified the need for relationships with those who have similar experiences as necessary to persist in science-focused graduate programs:

> Guidance via fictive kinship with someone who understands the requirements of membership cannot only guide a doctoral student to the outer walls of membership, but give them time to gain and share the knowledge needed to build capital and to decolonize the ideas of White privilege, allowing a progression through the walls of membership (p. 14).

Academic support and social activities facilitated by the graduate institution also contribute to the success of graduate students of color. Lane (2016) proposed a model including holistic support, community building, and STEM identity development to support the persistence and completion rates of students of color enrolled in STEM programs. Support structures, such as having a "one-stop shop" for academic advising, tutoring, and financial support, were noted as important in students' persistence and completion of degrees (Lane, 2016).

Moreira et al. (2019) used a mixed-methods design to explore the effectiveness of an innovative program designed to keep "underrepresented minority" students in STEM graduate programs. Qualitatively, student participants described the program's components. They identified the annual conference for students to bond with one another, share experiences, and have professional growth as particularly supportive. The Institute on Teaching and Mentoring, another component, had a 92% positive experience rating. Summer retreats included the topics of work–life balance, stress reduction, and mental health; a peer writing group and ongoing writing support also were included. Students also discussed community building interventions, welcome-back get-togethers, and regular celebrations. The program was helpful in creating an atmosphere that supported student retention.

While specific support systems can promote the success of graduate students of color, do those support systems remain helpful for graduate students attending school at the outset of a pandemic? A few studies have examined the experiences of students during prior public health emergencies, specifically the 2009 H1N1 influenza outbreak, and the September 11, 2001, terrorist attack, and may provide some insight. For example, Perez et al. (2012) explored the impact of stress on university students' mask-wearing behavior and hand hygiene during the H1N1 flu outbreak. Participants received one web-based survey for each of the 6 weeks of the intervention about perceived stress and handwashing, sanitizer use, and mask wearing were given to students. Influenza-like illness (ILI) was determined by weekly surveys and/or clinical assessment. Psychological stress levels had no apparent effect on the use of facemasks and hand hygiene. However, when all behavioral and demographic information was taken into account, students' higher levels of perceived psychological stress during influenza season was linked with greater incidence of ILI. Factors other than stress, such as racial/ethnic differences in susceptibility to illness, warrant attention, as does examining data on students' coping and stress management (Perez et al., 2012).

A further study of students during the H1N1 outbreak identified racial disparities that resemble the most recent COVID-19 data (Khunti et al., 2020; Platt & Warwick, 2020). Quinn et al. (2011) found that racial and ethnic minorities were at an elevated risk for H1N1 as a result of higher exposure risks and susceptibility to complications. Participants also reported limited access to health care. The authors voiced concerns that these racial disparities would increase during any pandemic and identified a need for preparation to address potential disasters. The specific recommendations provided by Quinn et al. (2011) have since been identified in the current literature as necessary to address the COVID-19 pandemic (Khunti et al., 2020).

Though not specifically pandemic-related, research on the effects of the 9/11 terrorist attacks also give insight into the support needs of students during times of stress. Swenson and Henkel-Johnson (2003) explored vicarious responses to 9/11 in a midwestern college community. Their sample, unlike that of the present study, consisted of 589 primarily White students who were a representative sample of the university population. Results showed that 76% of

students reported substantial symptoms similar to those of post-traumatic stress disorder, with 44% reporting three or more such symptoms. The authors reported that, similar to other literature on traumatic events, twice as many women as men responded with symptoms. Similar to the studies identifying the needs of racial and ethnic minoritized students in STEM fields, students described various coping mechanisms: cognitive, informational, relational, community, and other.

Acute stress has been defined as "the sudden or unexpected onset of moderate to severe discomfort or disequilibrium" (Myers-Walls, 2020, p. 663). Although by definition it would seem that acute stress would have only a negative impact, one study completed in Spain compared students' test scores and grades from 2019 to 2020 with surprising results. When controlling for other variables, students who were quarantined during COVID-19 in 2020 scored better than did students in 2019 (González et al., 2020). The researchers identified the opportunity to work continuously without distraction as the key to working more effectively. More research is needed to determine whether this holds true for all students. It is likely that students' specific living arrangements, access to a personal computer and stable broadband, work habits, and other factors may have an impact on experiences during quarantine.

Similar to the research on the supports needed for racial and ethnic minoritized STEM students' persistence, Myers-Walls (2020) stated that important considerations for people during times of acute stress, as would be experienced in this pandemic, include identifying acute stress; having supportive social networks; understanding stress and coping; having a sense of safety, calming, connectedness, hope, and connections with the familiar; having advocates for families; and collaborating with other professionals. To be most effective, such supports must derive from a multitude of systems.

Graduate students who also are parents report higher levels of stress related to work–family balance, as well as a general lack of support from university systems (Dolson & Deemer, 2020; Springer et al., 2009; Theisen et al., 2018). Additionally, particularly affected by the imbalances of COVID-19 are parents, who report higher numbers of stressors overall (Brown et al., 2020). Parents of color, parents of children with disabilities, and families experiencing poverty appear most significantly affected (Brown et al., 2020; Brown & Ravallion, 2020; Centers for Disease Control and Prevention, CDC, 2020; Neece et al., 2020; Rolland, 2020). The CDC (2020) stated that social determinants of health create disproportionately high rates of stressors for some families, particularly families of color and families experiencing poverty: "Neighborhood and physical environment, health and healthcare, occupation and job conditions, income, and education may increase the risk of COVID-19 exposure, illness, hospitalization, long-term health and social consequences, and death."

For many parents, changes in their children's education and extracurricular services ranked as considerable concerns, as did concern about their children's health (Brown et al., 2020; Neece et al., 2020). A majority of parents in Brown et al.'s (2020) study reported high levels of anxiety, depression, poor sleep, and mood changes. Latinx parents reported the highest levels of stressors, perhaps due to changes in culturally normed family support systems (Brown et al., 2020). As parents who may experience already higher rates of stressors than parents of typically developing children, parents of children with disabilities report concerns related to loss of services, having more caretaking responsibilities, and concerns about their children's futures (Neece et al., 2020). It could be surmised that without appropriate support, graduate students, particularly graduate students with health disparities, may be exponentially affected by COVID-19.

The conceptualization of the present study was informed by the work of Urie Bronfenbrenner (1979), who asserted that individuals exist within a set of embedded systems, known as microsystems. This model was selected to guide the present study as the systems closest to the individual are those with a direct impact. Graduate school would represent one such microsystem for the student. The next level represents the interactions among an individual's microsystems. For example, the interactions between school and family or home life. Presumably, during a quarantine, these mesosystems would be particularly salient given that home and school may have suddenly been merged. At the next level of influence are elements of the exosystem, which have indirect influences on individuals' experiences. During a pandemic, important exosystems might include the availability

of high-speed Internet access, policies created by local governments regarding the nature of the quarantine, the university administration's expectations of work during a pandemic, and so on. At the broadest level is the macrosystem, which includes national and global policy and larger cultural beliefs. In the United States, the lack of a cohesive national plan for testing and tracing of COVID-19 is one example. All these systems are affected by the chronosystem (i.e., the time period during which an individual is developing). The COVID-19 pandemic arguably represents a substantial life event for all who are currently living. Using the bioecological model (Bronfenbrenner & Morris, 2006) as a foundation for understanding graduate students' experiences of support and challenge reminds us to consider possible influences at each systemic level.

The present study seeks to understand the experiences of historically underrepresented graduate students and their families at a large, public university in the western United States during the time of the COVID-19 pandemic. The following questions guided this research:

RQ1: How do historically underrepresented graduate students describe their experiences during the COVID-19 pandemic?

RQ2: How do families of historically underrepresented graduate students describe their students' experiences during the COVID-19 pandemic?

RQ3: How do faculty, administrative faculty (i.e., professional staff), and an administrator of historically underrepresented graduate student programming describe their students' experiences during the COVID-19 pandemic?

Method

This study was part of a larger project about historically underrepresented graduate students, families, and university faculty at a public university in the western United States. Using a multiple-category focus group design (Krueger & Casey, 2015), we conducted five online focus groups through Zoom, a video-conferencing platform. Focus groups were (a) historically underrepresented doctoral students ($n = 5$); (b) historically underrepresented master's students ($n = 6$); (c) academic faculty ($n = 7$); (d) administrator, administrative, and academic faculty ($n = 6$), and (e) families of historically underrepresented doctoral students ($n = 6$). *Family* was defined as partners, spouses, siblings who were age 18 years or older, parents, cousins, aunts, uncles, grandparents, and in-laws.

Data collection occurred from April 27, 2020, to May 22, 2020. Academic participants were enrolled or employed at one university in a state that was operating under governmental stay-at-home orders due to the COVID-19 virus until May 9, 2020. The university began the first phase of reopening and recovering on May 9, 2020, but adhered to alternative operations; entry into campus buildings was not possible except in circumstances that the university president approved. In this phase, the university continued to conduct instruction online and to deliver services and functions remotely, and campus events continued to be online, canceled, or postponed.

Semistructured focus group guides were developed by the first and second authors. Focus group questions were designed with the following sensitizing concepts, including (a) family support, (b) concepts from the bioecological model, and (c) nonacademic and academic resources. The focus group guides were reviewed by 10 researchers with doctoral qualifications from a variety of fields, such as human development and family science, public health, counseling, diversity and equity, and Latino and Indigenous research. Questions were adjusted on the basis of reviewer feedback.

Each focus group began with the purpose of the study, followed by two to three introduction questions that asked about how participants arrived at academia, what comes to mind when they hear the phrase "historically underrepresented groups," and what resources come to mind when they hear the phrase "historically underrepresented groups." Next, graduate student participants were asked, "What has been the impact of the COVID-19 pandemic on your education?" Family as well as faculty and administrative focus group participants were asked, "What has been the impact of the COVID-19 pandemic on historically underrepresented graduate students' education?" In all focus groups, the facilitator stated: "In the remaining questions, please feel free to discuss or to make comparisons from the present time of COVID-19 to a time without it. In other words, responses that include COVID-19 are welcomed and encouraged." Participants were then asked questions in the following categories: nonfinancial resources;

family support; resources on campus, in the community, and beyond; and access and use of resources.

Recruitment

Approval from the researchers' institutional review board was obtained before recruitment commenced. Because in-person focus groups were not possible, video-based technology was used. Although the format of data collected from online versus in-person focus groups may differ, the content of data yielded is similar between the two modes (Woodyatt et al., 2016).

All students and faculty had access to Zoom through the university's subscription. Family members needed to have access to Zoom to participate. The university's graduate school provided a list of potential faculty, doctoral student, and master's student participants for the study. Eligible graduate student, faculty, and administrator participants had to identify as part of at least one historically underrepresented group, which the research team defined to include but not be limited to Native American, Latinx, African American, first-generation student, and/or women in STEM.

The first and seventh authors handled recruitment via email. A recruitment flyer (in English and Spanish) with high accessibility scores (as determined by Ally, a tool that helps determine the accessibility of materials in a learning management system) was sent as an email attachment and the body of the email included information about the study with a request to RSVP. The recruitment email stated that graduate students, faculty, and administrators in STEM were preferred participants but that historically underrepresented students and faculty from other disciplines were welcomed to participate, too.

At the end of the two graduate student focus groups, participants were asked to invite one family member to participate in the family focus group. To reiterate, our definition of family included partners, parents, siblings, fictive kin, and others. Faculty from our focus groups were asked to share a provided email request with their students directly and via program or department email lists. The email also invited participation of families of historically underrepresented graduate students. Once participants emailed the first author to express their interest, they were sent Zoom information, including

date, time, link to join the meeting, and call-in information.

Participants

There were 30 total participants. There were 10 (90.9%) female historically underrepresented graduate students out of 11 graduate student participants, 10 of the 13 faculty, administrative faculty, and administrator out of 13 participants in this category were female (76.9%), and four out of six family members were female (66.7%). Historically underrepresented graduate students ranged from 24 to 35 years of age ($\bar{x} = 29.45$, $SD = 3.93$). Academic and administrative faculty, and an administrator ranged from 28 to 53 years of age ($\bar{x} = 39.50$, $SD = 8.38$), and one participant did not include age. Family participants ranged from 18 to 52 years of age ($\bar{x} = 37.17$, $SD = 14.39$). Among the historically underrepresented graduate students, three (27.3%) were first-generation college students, and five (45.5%) were first-generation graduate students.

The category of family members represented different family relationships with historically underrepresented graduate students: one brother (16.7%), one mother (16.7%), two sisters (33.3%), and two spouses (33.3%). The category of faculty included nine academic faculty (69.2%); three administrative faculty, such as a social worker, adviser, or manager (23.1%); and one administrator (dean) (7.7%). Further demographic characteristics, including ethnicity, are presented for historically underrepresented graduate students (Table 1), faculty, administrative faculty, and the administrator (Table 2), and family (Table 3). See Tables 4, 5, and 6 for pseudonym information.

Data Collection Procedures

About 1–2 hours before each focus group, each participant was sent an individual email containing a semistructured focus group guide and Qualtrics link to a demographic survey tailored to their assigned focus group, and a copy of the Zoom information. Families had access to study materials (information sheet, demographic survey, focus group guides) in English and Spanish and had the option to attend an English- or Spanish-speaking focus group. The seventh author translated these materials, which were then reviewed by a native speaker of Spanish employed by the university.

Table 1. *Demographic Characteristics of Graduate Students* (N = *11*)

Characteristic	n	%[a]
Ethnicity		
White	1	9.1
Asian/Pacific Islander	2	18.2
Native American/American Indian	1	9.1
African American/Black	1	9.1
Hispanic/Latinx	3	27.3
White and African American/Black	1	9.1
White and Hispanic/Latina	1	9.1
Asian/Pacific Islander and Native American/American Indian	1	9.1
Relationship status		
Married/lives as married	4	36.4
Single	7	63.6
Field of study		
Biological/biomedical sciences	2	18.2
Engineering	3	27.3
Mathematics	1	9.1
Education	2	18.2
Public health	1	9.1
Business	1	9.1
Human development and family science (HDFS)	1	9.1

[a]Valid percentages.

Table 2. *Demographic Characteristics of Faculty, Administrative Faculty, and Administrator* (N = *13*)

Characteristic	n	%[a]
Ethnicity		
White	2	15.4
Asian/Pacific Islander	3	23.1
African American/Black	2	15.4
Hispanic/Latinx	6	46.2
Degree		
Master's degree	1	7.7
Professional degree/PhD	12	92.3
Relationship status		
Married/lives as married	11	84.6
Single	1	7.7
Divorced	1	7.7
Field of study		
Biological/biomedical sciences	1	7.7
Computer/information science	2	15.4
Psychology	1	7.7
Education	3	23.1
Public health	1	7.7
Other	1	7.7
Human development and family science (HDFS)	1	7.7
Communication studies/gender, race, identity	1	7.7
Journalism and mass communication	1	7.7
Humanities	1	7.7

[a]Valid percentages.

The first author, a PhD faculty member with experience conducting focus groups, was a facilitator for each focus group. The second facilitator for each focus group was a different co-author, for a total of five cofacilitators. Each focus group lasted the maximum of 100 minutes in duration and was conducted in English.

A clarification question that was frequently used by the facilitator was "Are you referring to the present time of COVID-19, the past, or the future?" in order to understand the context in which respondents were framing their responses. In a few instances, a facilitator paraphrased responses and asked participants to confirm or to correct them. At the end of each focus group, one volunteer from each group was invited to read a draft of our findings for member checking. Focus groups were all in English and audio transcribed in Zoom by checking this option in Zoom and saving the files to a cloud-based storage platform. Each transcription was reviewed and verified by the sixth author against the Zoom audio to make sure it was transcribed verbatim. As an incentive, each graduate student, faculty, administrative faculty, and the administrator were individually emailed an electronic $5 gift card immediately after each focus group. Each family member was individually emailed a $25 gift card.

Data Analysis

To reduce the influence of personal and implicit bias, all three analysts wrote and discussed reflection statements about historically underrepresented graduate students before analysis commenced. Throughout the analysis, further reflections were recorded in reflexive journals and analytic memos (see Lincoln & Guba, 1985). A reflexive thematic analysis approach was used (Braun & Clarke, 2006). The three analysts applied Braun and Clarke's (2006) six phases of thematic analysis to the data for emergent coding and analysis: (a) familiarizing yourself with the data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and

Table 3. *Demographic Characteristics of Family (N = 6)*

Characteristic	n	%[a]
Ethnicity		
White	1	16.7
Hispanic/Latinx	2	33.3
White and Hispanic/Latinx	2	33.3
White and Asian/Pacific Islander	1	16.7
Degree		
High school diploma/GED	3	50.0
Bachelor's degree	1	16.7
Master's degree	1	16.7
4 years of college/did not graduate	1	16.7
Relationship status		
Married/lives as married	3	50.0
Single	3	50.0

[a]Valid percentages.

(f) producing the report. Three analysts participated in data analysis and independently read all the transcripts and recorded initial codes and reached consensus for a list of codes. The next phase involved the analysts' discussion and review of codes to organize the codes by patterns of meaning, which emerged as themes and subthemes in answering the research objective.

Four major themes with the subthemes and codes that constitute them are presented. Representative quotations for each subtheme are provided also with a note on which focus group they represent. An additional analyst reviewed the codes and themes for accuracy. Once our findings were drafted, five participants (two graduate students, one family member, one faculty member, and the administrative faculty member) reviewed them to provide member-checking feedback on the precision of codes, subthemes, and themes (see Glesne, 2006). Adjustments were made to the name of one theme and to two subthemes based on their feedback.

RESULTS

The research questions examined historically underrepresented graduate students' experiences during the COVID-19 pandemic from the student, family, faculty, administrative faculty, and administrator perspective of four major themes, as well as subthemes, codes, and representative quotations, emerged from our data analysis (see the Appendix). The four themes identified were resources and accessing them, adjustments to home and family life, existing nonfinancial

Table 4. *Graduate Student Pseudonyms and Demographic Data*

Pseudonym	Gender	Age (years)	Ethnicity/Race	Degree Program	Field of Study	First-Generation College Student	First-Generation Graduate Student
Doctoral Program							
Sydney	Female	34	Hispanic/Latino(a)	Doctoral	Engineering	No	No
Amy	Female	31	White and Hispanic/Latinx	Doctoral	Biological/biomedical science	Yes	Yes
Samantha	Female	28	Asian/Pacific Islander and Native American/American Indian	Doctoral	Biological/biomedical sciences	No	Yes
Aubree	Female	29	White	Doctoral	Mathematics	No	No
Devon	Male	35	Native American/American Indian	Doctoral	Engineering	No	Yes
Emeli	Female	24	Asian/Pacific Islander	Master's	Public health	No	No
Aalia	Female	27	Asian/Pacific Islander	Master's	Engineering	No	No
Misha	Female	35	African American/Black	Master's	Business	No	No
Vanessa	Female	29	Hispanic/Latinx	Master's	Education	Yes	Yes
Ainsley	Female	28	White and African American/Black	Master's	Education	No	No
Arielle	Female	24	Hispanic/Latinx	Master's	HDFS	Yes	Yes

Table 5. *Faculty/Administrative Faculty/Administrator Pseudonyms and Demographic Data*

Pseudonym	Gender	Age (years)	Ethnicity/Race	Highest Degree or Level of School Completed	Field of Study	Primary Job at University
Mae	F	34	African American/Black	PhD	Other, HDFS	Prof
Jolene	F	28	White	PhD	CIS[a]	Prof
Jade	F	No answer	African American/Black	PhD	Public Health	Prof
Tracy	F	41	Asian/Pacific Islander	PhD	Education	Prof
Christy	F	37	Hispanic/Latinx	PhD	Other, CS[b], GRI[c]	Prof
Joan	F	35	Hispanic/Latinx	PhD	Education	Prof
Myles	M	51	Hispanic/Latinx	PhD	Other-Humanities	Admin
Neela	F	37	Hispanic/Latinx	PhD	Biological/BS[d]	Admin faculty
Mikeal	M	53	Asian/Pacific Islander	PhD	Other, J & MC[e]	Prof
Braydon	M	43	White	PhD	CISa	Prof
Taylan	F	28	Hispanic/Latinx	Master's degree	Other	Admin faculty
Adaline	F	50	Asian/Pacific Islander	PhD	Psychology	Admin faculty

Note. prof = professor; admin = administrator; and admin faculty = administrative faculty. [a]Computer/information science. [b]Communication studies. [c]Gender, race, identity. [d]Biomedical science. [e]Journalism and mass communication.

Table 6. *Family Member Pseudonyms and Demographic Data*

Pseudonym	Gender	Age (years)	Ethnicity/Race	Highest Degree or Level of School Completed	Relation to Grad Student
Neelam	Male	50	White	4 years of college/did not graduate	Spouse
Darla	Female	47	White and Hispanic/Latinx	High school diploma/GED	Sister
Rizwan	Male	18	Hispanic/Latinx	High school diploma/GED	Brother
Reese	Female	52	White and Hispanic/Latina	High school diploma/GED	Mother
Brittney	Female	31	White and Asian/Pacific Islander	Master's degree	Spouse
Luna	Female	25	Hispanic/Latina	Bachelor's degree	Sister

issues magnified, and fears of and possibilities for future. These four themes are interrelated in that they consistently subsumed cultural nuances brought out by the five focus groups about historically underrepresented graduate students.

Resources and Accessing Them (Theme 1)

Across all focus groups, there was agreement that COVID-19 impacted finances and resources. Theme 1 consists of two subthemes: (a) delays and financial needs and (b) challenges accessing resources. Under the theme of resources and accessing them, family and the focus group of faculty, administrative faculty, and an administrator commented most frequently on delays and financial needs. Family members commented most frequently on challenges accessing resources.

Delays and financial needs. All focus groups mentioned financial needs of underrepresented graduate students and often financial aid, scholarships, and assistantships were the first resources to come to mind regarding resources for underrepresented graduate students. Because of the COVID-19 pandemic, delays and financial stress occurred. One master's student (Arielle) said: "My biggest thing [impact of COVID-19] was that my internship was shut down. And so what should have been done weeks ago is still dragging on, which delayed graduation as well." Another master's student (Ainsley) stated there were "more financial challenges" due to the COVID-19 pandemic. An administrative faculty member (Taylan) said: "I had to completely turn my budget into no longer doing those things [various graduation celebrations for different cultural groups] and thinking how I can turn the budget into emergency funds for students in need."

Challenges accessing resources. One doctoral student (Samantha) responded to a question about COVID and accessing resources that "I know a lot of people [graduate students] who are struggling like emotionally and mentally." Alternatively, another doctoral student (Aubree) shared "a positive campus resource COVID related thing … the Graduate Student Association was able to refund part of a reservation I'd made for a fellowship."

One participant in each graduate focus group expressed "uncertainty" or being "not sure" regarding the extent of available campus resources during the pandemic. Students mentioned the use of counseling services, food pantry awareness, and use of legal services and student government while campus was not fully operating. One doctoral student (Aubree) mentioned that she was using telecounseling services during the shelter-in-place orders. One master's student (Ainsley) stated:

> The only thing I know that students are doing is like Pack Provisions [food pantry] and that's because they're helping get it immediately, and directly to students. I'm not sure what that [campus transportation] looks like for like going to Walmart at this time.

Another master's student (Misha) stated:

> So that whole situation [moving apartments during a pandemic due to loud roommates] was so tough because it became a legal process, and ASUN [Associated Students of the University] got in charge. I had social workers coming in, trying to figure out what you can do for me, so I had, like, another three, four weeks of not knowing what's gonna happen.

Some ongoing challenges stated by graduate students included the following: "hard to ask peers [about resources] when they are not the same ethnicity/culture as you," "imposter syndrome," and "graduate students are not a monolith. And even though we've figured out undergrad, that doesn't mean that we don't still need help with our master's or a PhD."

A family member (Luna) said:

> I think I'd like going to the campus [post-COVID]. Honestly, uh, it would open me to actually going into a master's degree, if I was invited to the campus and I'd be open to it like either contacting my sister who's a PhD student or me by email like yeah and knowing the campus more, and

its resources, so maybe what they have for the students, and not only the students, the family members would be great.

Adjustments to Home and Family Life (Theme 2)

Across all focus groups, there was an acute understanding that COVID-19 affected day-to-day lives and, in particular, family life. It should be noted when referring to home and family life that five graduate student respondents were residing with family at the time of this study and three out of five stated that this was a result of COVID-19. This theme includes four subthemes: (a) increases in family responsibilities, (b) costs of work–life blending, (c) meaningful family life, and (d) family support. The focus group comprising faculty, administrative faculty, and an administrator commented most frequently on increases in family responsibilities. Family commented most frequently on costs of work–life blending, meaningful family life, and family support.

Increases in family responsibilities. The COVID-19 pandemic has increased family responsibilities for historically underrepresented graduate students. A faculty member (Christy) stated: "Family responsibilities have increased, and some of them [historically underrepresented graduate students] have had to go back home to support the family." One doctoral student (Devon) who returned to live with family on a reservation (i.e., tribal lands) during the pandemic stated: "Yeah, there's been a lot more, just ran home I'm trying to get homework done, then all sudden, I got to take somebody to the emergency room last night. So, a lot more of that kind of stuff."

Faculty asserted that historically underrepresented graduate students are indeed taking on more family responsibilities such as caretaking and bread winning. An administrative faculty member (Taylan) said, "They're [graduate students] taking care of their parents, who lost their jobs." An academic faculty (Christy) stated: "Some [historically underrepresented graduate students] have started to work in areas like 'essential worker, food sector.' Because of the need to be very supportive of their families and their siblings."

A pandemic has the potential to create acute stress in family members (Myers-Walls, 2020).

A faculty member (Jade) recalled a historically underrepresented graduate student telling her that "they now have to do childcare," that school-work was becoming "impossible," and that the student "was requesting more time to submit her work." One family member (Rizwan) of a historically underrepresented graduate student who shared a residence with them expressed concerns with how the graduate student was coping:

> She stays in her room for like 40 hours straight … for me it's just kind of being like, how did you not go insane … and expectations of cleaning the house, making sure things are done, cooking food before the parents get home and, you know trying to keep everything stable while at the same time you're trying to keep yourself stable without going insane as well.

Costs of work–life blending. Participants across all focus groups reported a lack of distinction between work–life and home–life challenges or challenges with blending. One family member (Luna) of a historically underrepresented graduate student residing in the same home described this as being "like there's no balance at all." A master's student (Emeli) stated that some professors "upped our assignments, because we are at home" which contributed to a lack of balance.

Working from home without a dedicated workspace created challenges. One master's student (Misha) stated that before the pandemic, she always "studied in school at the library." During the new normal, one family member (Luna) reported that they were "adapting our whole lifestyle to having to work from home." Graduate students had to buy "new supplies" such as "a printer," "a desk," and "a desktop" and "set up a home office."

A master's student (Misha) reported that buying supplies to work from home was not straight-forward because "all the stores were either sold out, or you had to order online and wait for like three to four weeks."

Meaningful family life. Although the COVID-19 pandemic required sheltering in place and sep-aration of families from one another and from other families, it has the potential to promote strengths and resilience in families (Myers-Walls, 2020) as well as new opportunities (DeFrain & Asay, 2007). Family members in the present study stated that they had increased family time during the pandemic by "seeing the positive in it," because "it's a gift," and "being grateful for the time we have together staying at home." One family member (Darla) said, "Because it's like all of our lives, get so busy that we don't have the break that this [pandemic] has caused the entire world to take." A master's student (Emeli) said:

> My family has started to do more intentional times to meet through Zoom, so we've been doing like story times with my niece, and just trying to get together in that way. I think COVID has created a space for family to be able to reach out to one another without the pressures, there are still pressures but without as much pressure of the deadlines, being at the office and not being able to answer your phone. So it just seems like there is more of an intentional opportunity for family to connect.

Family support. Consistent with previous research (Russell et al., 2018), historically underrepresented graduate student participants discussed family support and variations in support. Family members described showing support to the graduate student during the pan-demic by "listening," "offering moral support," and "being flexible with the graduate student." This is consistent with the existing finding that families commonly provide support through words of encouragement or listening that is tailored to the graduate student's situation (Burt et al., 2019). One graduate student (Ainsley) mentioned that her fictive kin does "check-ins" and that they have been "a great reminder of knowing that I'm not by myself." Alternatively, a graduate student reported that getting fam-ily support during the COVID pandemic was challenging (see the Appendix).

Historically underrepresented graduate stu-dents also provide financial support for their families. One doctoral student (Devon) who moved in with family during the pandemic stated that during the pandemic, he

> had to help with some money, just so some of the babies don't go, you know unfed, things like that. So, financially, it's been harder in multiple ways in the fact that now that I'm back home [on the reservation] and I'm one of the few stable ones.

Existing Nonfinancial Issues Magnified (Theme 3)

This theme captured that the COVID-19 pan-demic magnified barriers and hardships for

historically underrepresented groups. The subthemes included (a) lack of cultural and ethnic products, (b) small underrepresented communities feel smaller, and (c) impact of identity or identities. Family commented most on lack of cultural and ethnic products. Master's students commented the most that small underrepresented communities feel smaller. The focus group comprising faculty, administrative faculty, and an administrator commented most on the impact of identity or identities.

Lack of cultural and ethnic products. There was consensus in many focus groups that the geographic location of the university does not offer many cultural and ethnic products and that this was amplified by the pandemic. A master's student (Ainsley) discussed Black hair care:

> Just being a Black woman, there's already a very limited amount of hair care items to begin with, and now that a lot of like specialty stores, they're open now, but prior they had been closed to COVID-19. And, that it [pandemic] made it really difficult to take care of my hair.

Family participants mentioned that the lack of culturally relevant food, such as "Calrose rice" and "Spam" was hard to find during the early months of the pandemic. One family member (Darla) stated: "The days of stress that I really put on myself to find a specific rice [was] a little comedic but also, it was like, weird, it's stressful. It's a strange time." Another family participant (Neelam) lamented that the "Mexican restaurant" permanently closed on campus outside of the pandemic. Finally, another participant (Brittney) stated "I know that some of our Asian foods or Latino foods are less present."

Small underrepresented communities feel smaller. This subtheme captured that belonging to communities was exacerbated by the pandemic. For instance, the small Black community feels smaller during the pandemic. One master's student (Ainsely) stated:

> We [affinity group] have check-ins, um, which has been really important for me especially because even before this all happened there was already a very small Black population at [the university], so now it's feeling even smaller being at home all the time.

A doctoral student (Devon) discussed his consciousness of being Native American. He stated:

> I'm the only Native American student in my program. So like it's really hard to relate to people sometimes. So, and we're a very, like you said, like the tribal community-based culture and it's very weird going out, you know, even though this was originally our country, you still feel like a foreigner.

Impact of identity or identities. Participants shared the influence of the intersection of identities and DACA or immigration status during the pandemic. One faculty member (Veronica) mentioned: "One student had to delay their defense, just because of immigration issues and not being able to fly back home after the defense and having to postpone their status here in the United States." An administrative faculty member (Taylan) stated:

> I'm working with undocumented DACA students, understanding that the threat of their own status, and opportunity to work in the U.S., is just another barrier they have to face. It just seems like a lot of their issues they've had before, it's just a lot, it's high and more now during this pandemic. So navigating through all of that has been really difficult for those students.

Another faculty member (Christy) stated: "[Many faculty] don't understand how the intersection of mental health, identity, and systemic oppression really play a role in being able to actually finish [a graduate degree]."

Fear of and Possibilities for Future (Theme 4)

This theme's subthemes included (a) fear and concerns, (b) potential of institution emerging stronger, and (c) recommendations for higher education to support historically underrepresented graduate students. The focus group comprising faculty, administrative faculty, and an administrator commented most frequently on all of the subthemes.

Fear and concerns. Participants expressed concerns for aging parents as an added stressor. One doctoral student (Samantha) stated:

> With the present COVID situation, I know that if anything happens to my parents who are 63- and 57-year-olds. I cannot even fly back home because that is not even an option. India has no international flights coming in.

A faculty participant (Joan) expressed that she takes care of elderly parents and she wanted to

help students. She said, "So my mental space was there with my parents, but then having to figure that [caring for elderly parents] out for my students."

Participants also expressed *fear of contraction* for themselves. For example, a master's student (Ainsley) stated that she was "scared of the outdoors." A family participant (Darla) stated: "I have had a lot of exposure and we do have a small child in the house. And so just worrying about bringing that [COVID-19] home." Another family member (Luna) stated, "You're like, oh my God, if I go [to the doctor's office], what if I bumped into someone that might be infected."

Potential of the institution emerging stronger. This subtheme included incorporation of technology in future teaching and learning and multiple pathways for students to access resources. For instance, in response to the question about the impact of COVID-19 on historically underrepresented graduate students' education, one faculty member (Braydon) who participated expressed, "You know, we found a way to virtualize [learning] that and people kind of, students really like it's so much that even if we go back to campus we would probably still try to do it virtual reality." In response to a question about resources for these students, another faculty member (Tracy) said:

> So, now that we've been doing things online for the past few weeks, it kind of seems like multiple pathways to be able to access the resources. So maybe email or a phone call or even a video conferencing, consultation. So maybe multiple ways instead of just having to go in person.

Recommendations for higher education to support historically underrepresented graduate students. Participants made recommendations for the present and when campus fully reopens in the future. One family member (Rizwan) stated that during the pandemic:

> My family would probably benefit from a mental health check because you know kind of being in a Hispanic household. We've always kind of, in a sense disregard those things because we don't want, at least in our family, to seem weak.

Resource guides for all underrepresented groups should be given at admission and on an ongoing basis. A master's student (Misha)

stated, "Even just, to know if student health care is still available [during the pandemic] or what we need to do to get medical care." Faculty and master's students mentioned a "Black resource guide" for students that was shared by multiple entities on campus. Another master's student (Ainsley) stated:

> So when I first got here, the Black resource guide from the center—and I think that has really helped me find resources outside of campus. But I think one [thing] in particular that I would really like on campus is maybe that resource guide being expanded. Not just like a Black resource guide, but for other marginalized communities, so they can also see these are particular places or businesses that I may want to go to find community and even people who aren't a part of these explicit communities to just like support and be a part of allyship.

A faculty participant (Jade) stated that "expanding this resource guide to other underrepresented groups instead of just African Americans would be helpful." The participant (Jade) also suggested that the guide should highlight who to contact in terms of "who they feel maybe would understand them better, they can contact them." Graduate student participants also suggested that resource information specific to graduate students, such as a "newsletter," "depository," or "website" would be helpful.

Race-based support is desirable. One administrative faculty participant (Taylan) stated that it is important to send reminders about campus resources that are directed at underrepresented graduate students and state, "We're here to provide you the support that you need and that we're culturally responsive and sensitive to race, and to your specific needs."

Informing families was reported in all focus groups as well. For instance, an administrative faculty participant (Taylan) stated "normalizing that it's OK to be a student … and how to have the conversation with family members." This participant also stated "normalizing that it's the dynamic of family will change and your [graduate student] role within your family unit will also change as a graduate student." One faculty participant (Jade) stated that she received emails from both "underrepresented and mainstream students" who stated that family life and graduate school "was just becoming impossible" and that "the pressure and anxiety from COVID is too much." An administrative faculty member

(Taylan) stated that "working with graduate students now they're considering … how much COVID-19 is going to impact them [their family]." They continued that they encouraged graduate students to have conversations with families about "what it would possibly mean if anyone in the family gets COVID-19." Another administrative faculty member (Neela) said "that being able to break down what your research is and explain it to a family member in a way that you know … your family is going to relate to." An administrator (Myles) stated that for "underrepresented students they often seek their family's approval for what we're doing because the decisions we make are often for our entire family and community." The participant (Myles) continued that there "are really major differences, I think, between some of the experiences of underrepresented students, and especially female underrepresented students and the traditional graduate that we need to be aware of." A family participant (Brittney) said "social events that involve families" are helpful. These findings are consistent with recommendations in the literature (e.g., McCallum, 2016) that higher education should create family-friendly programs and policies to encourage historically underrepresented students in graduate programs.

Discussion

We explored historically underrepresented graduate students' experiences during the COVID-19 pandemic through querying students, their family members, and faculty and administrators. Qualitative data analysis revealed four major themes: resources and accessing them, adjustments to home and family life, existing nonfinancial issues magnified, fear of and possibilities for future. Our findings can be viewed within the bioecological model, specifically the interconnections of the micro- and mesosystems (Bronfenbrenner & Morris, 2006). Participants' responses to adversity are within the context of interconnected environments. Relationships that graduate students have with their families and mentors are important microsystem influences that may play a role in how graduate students handle the acute stressors of the COVID-19 pandemic.

The theme of resources and accessing them is similar to that of Perez et al. (2012), in that the COVID-19 pandemic amplified existing challenges in higher education for underrepresented

students. The issue of economic challenges for the university and historically underrepresented students emerged in all focus groups. A university-wide hiring and spending freeze affected graduate students. The hiring freeze policy exacerbated the common setback of how to pay for college. In one case, a graduate student in a letter-of-appointment position had the hiring freeze affect plans for tuition assistance. COVID-19-induced work-from-home requirements also caused unanticipated expenses as students had to arrange and purchase items that were otherwise available on campus (e.g., printers, internet, desk) to create a productive home-based workspace.

Academic success and motivation were challenged by working from the home environment. Such challenges affected both academic work and family life. For some students, academic faculty increased workloads as the class moved to remote learning. Overwhelmingly, participants agreed that, compared to in-person learning, remote learning reduces student motivation. Research progress was stalled as students' access to research and lab spaces was restricted or denied. At home, expectations to contribute to household functioning were elevated. In addition to obtaining work outside of the university, the ability to do work at the computer was challenged by chores or parenting children. However, family members of these graduate students commented on seeing the student family member working hard and recognizing the need to offer additional support. Several family members talked about increased family time as a positive outcome (see DeFrain & Asay, 2007) of the COVID-19 pandemic.

Relationships that graduate students have with their families and/or fictive kin are an important microsystem influence that may play a role in how graduate students handle the COVID-19 pandemic. While some students' families offered support and awareness of student responsibilities, peer support from student clubs or affinity groups was limited because of alternative university operations. These clubs are a source of peer support for historically underrepresented students who may be the only student of color in their respective academic programs. The club or affinity group is thus a place where these students can meet to support one another (Bancroft, 2013; Chang et al., 2014). Due to alternative operations and challenges associated with the work-from-home

environment, holding club meetings remotely presented barriers; time and ability to organize meetings was limited.

Race- and ethnicity-based support and resources were also affected by the COVID-19 pandemic. Products and services already difficult to access became even harder to find (e.g., hair services and products, cultural foods). In addition, institutions should promote culturally relevant campus and community resources to historically underrepresented groups.

As a result of COVID-19, the lack of peer support and alternative operations further isolated historically underrepresented students who already report feeling invisible or hidden within the academic space. Isolation, coupled with national race-based events and movements, spotlighted the lack of university and community resources for these students. The lack of resources affects identity and a sense of belonging that historically underrepresented groups experience (Chang et al., 2014). Many faculty and administrative participants described intentions to resist the return to business as usual and to increase and improve resources available to students.

The findings and recommendations from this study are consistent with the impact of stressful events (H1N1 and 9/11) on underrepresented graduate students (Khunti et al., 2020; Lane, 2016; Perez et al., 2012; Platt & Warwick, 2020). The COVID-19 pandemic has exacerbated the prepandemic challenges, such as racism, and exacerbated the vulnerability of historically underrepresented and racial and ethnic minoritized students striving to complete a graduate education. The recurring issues and outcomes in the literature, and this study, represent an acknowledgment of inequities and the historical inattention to the needs of historically underrepresented and minoritized graduate students in higher education, thereby continually reinforcing White centrality in the academy. To demonstrate commitment to the advancement of historically underrepresented and minoritized graduate students, universities should prepare a plan to provide additional support during high-stress national events such as a pandemic or other crisis (e.g., 9/11).

LIMITATIONS

The trend in existing higher education literature includes more female than male underrepresented graduate student participants (Miller & Orsillo, 2020; Russell et al., 2018), 10 (90.9%) of 11 graduate participants identified as female. Three graduate student participants (27.3%) identified as Hispanic/Latinx. Roughly half of graduate student participants identified as first-generation graduate students. Participants were all affiliated with one public university in the western United States. Historically underrepresented graduate students from other universities may have different experiences in a pandemic. These details may not cover the full range of historically underrepresented graduate students' experiences during the pandemic.

Participation in the study required access to Zoom and related technological resources. It is possible that more family members would have participated were focus groups held in person. Nonetheless, Zoom allowed family members from the southern part of the state, as well as out-of-state families, to participate.

Data collection was delimited to April 27–May 22, 2020. This was before the Black Lives Matter movement had a national spotlight, the Supreme Court blocked the bid to end DACA, and Immigration and Customs Enforcement threatened to deport international students taking exclusively online course loads. These macro-level influences have micro-level and individual level impacts. Despite these limitations, our study is one of the first to our knowledge that answers calls for exploring experiences with the COVID-19 pandemic, specifically of underrepresented graduate students, faculty, and family.

IMPLICATIONS AND CONCLUSIONS

Our findings corroborate Myers-Walls's (2020) assertion that a pandemic has the potential to create acute stress in family members. To elaborate on the trauma related to the pandemic, historically underrepresented graduate students reported greater financial strain, more challenges accessing resources, increased family responsibilities, increased costs of work–life blending, and magnification of existing issues (e.g., small, underrepresented communities) during the pandemic. University caseworkers, counselors, diversity center staff, and graduate faculty should acknowledge these experiences and offer support through existing services, such as case management, counseling sessions, and mentoring sessions for historically

underrepresented graduate students. Connecting historically underrepresented students to existing communities, affinity groups, student clubs, and mentors who identify with students' race, ethnicity, and/or gender were identified as necessary nonfinancial supports.

Participants desire more family-friendly policies to support historically underrepresented graduate students. Historically underrepresented graduate students are not homogeneous, and their experiences need to be normalized within their family units in light of cultural expectations and roles. These experiences also must be threaded through university norms to decentralize Whiteness as the status quo. Future research should continue to explore family support and involvement, which are important for historically underrepresented students' persistence and degree completion (see González et al., 2001; Guillory & Wolverton, 2008; Schwartz et al., 2003).

Existing interventions offered by higher education that include historically underrepresented graduate students and family members are rare. This is surprising given that nonfinancial and nonacademic support, such as family support, is often considered tantamount to financial support (Burt et al., 2019). This focus group study and other efforts are part of a 2-year program designed to increase the retention and success of historically underrepresented students in graduate programs. The findings from this focus group study helped inform family support and family life education modules within the two-year program for historically underrepresented graduate students and their families. The modules have online and in-person components that are designed to support family involvement and family support. The present findings may help inform other family-friendly initiatives for historically underrepresented graduate students and their families.

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